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27076	7590	06/15/2005	BOYCE, ANDRE D

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3623	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 April 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.　　Claims 1-50 have been examined.

Claim Objections

2.　　Claims 2, 9, 21, 25, 32, 44 are objected to because of the following informalities:

The claims contain the acronyms FSR and/or OSS. Applicant should define the

acronym in the claim language. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3.　　35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent therefor,
> subject to the conditions and requirements of this title.

4.　　Claims 1-23 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the

technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature,

natural phenomena) that do not apply, involve, use, or advance the technological

arts fail to promote the "progress of science and the useful arts" (i.e., the physical

sciences as opposed to social sciences, for example) and therefore are found to be

non-statutory subject matter.

For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case the independent claims 1, 6, and 13 only recite abstract ideas. The recited steps of forming a list, identifying a request, determining an appointment window, etc. does not involve, use, or advance the technological arts (i.e., computer, processor, electronically, etc.), since the steps could be performed using pencil and paper.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case the claimed invention schedules a splittable work order, thereby producing a useful, concrete, and tangible result, but not within the technological arts as explained above.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-13, 18-36, and 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lesaint et al (USPN 6,578,005), in view of Powell et al (US 2001/0049619).

As per claim 1, Lesaint et al disclose a method for scheduling splittable work orders to provide customers with requested service (scheduling of a split task,

column 14, lines 30-34) the method comprising: forming a list of appointment

windows for days on which service may be performed (i.e., task appointed to a

specific timeslot, column 21, lines 36-40); identifying a request for service from a

customer as being a splittable work order (i.e., if task could overrun an overtime

limit, then task is only scheduled if it can be split, column 14, lines 30-34); assigning

to the splittable work order a job duration (i.e., tasks having a duration greater than a

predetermined value, column 12, lines 40-41) required to complete the order and a

split time that is less than the job duration (i.e., task split with proportion of task

completed before the end of overtime, column 14, lines 32-34); determining an

appointment window on a first day during which a portion of the service to complete

the work order may be scheduled, the appointment window being for the split time in

duration (i.e., first part of the task is scheduled to be completed at the scheduled end

of day, column 14, lines 34-36); and scheduling the splittable work order by

assigning the work order to the determined appointment windows on the first day

and subsequent day or days (i.e., pre-scheduler 30 schedules the split work order,

column 14, lines 49-50).

Lesaint et al does not explicitly disclose determining at least one appointment

window on a subsequent day or days during which the remainder of the service to

complete the work order may be scheduled. Powell et al discloses determining at

least one appointment window on a subsequent day or days during which the

remainder of the service to complete the work order may be scheduled (i.e., service

provider provides the customer a set of days and time windows in which the service

provider can optimally fulfill the order, ¶ 0045). Both Lesaint et al and Powell et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include determining at least one appointment window on a subsequent day in Lesaint et al, as seen in Powell et al, thereby making the specified time window as narrow and accurate as possible, thus providing greater customer service (see Powell et al, ¶ 0034).

As per claims 2, 9, and 21, Lesaint et al does not explicitly disclose dividing a service area into a number of OSS (order scheduling system) areas, assigning an FSR (field service representative) to each OSS area where each FSR has an associated skill level, assigning at least one skill level to each OSS area, and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills. Powell et al disclose dividing a service area into a number of OSS (order scheduling system) areas (i.e., assigning bands of concentric circles around a central depot, ¶ 0041), assigning an FSR (field service representative) to each OSS area where each FSR has an associated skill level (i.e., service technicians must be capable of same skills within concentric bands, ¶ 0041), assigning at least one skill level to each OSS area (i.e., skill level of all technicians assumed equal, ¶ 0041), and assigning a window hierarchy to each OSS area where each window hierarchy corresponds to a set of appointment windows that are defined as a function of the associated skills (i.e., service provider considers bands 20 of time windows, based

upon technician skill level, ¶ 0041). Both Lesaint et al and Powell et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include dividing the service area and assigning technicians based upon skill in Lesaint et al, as seen in Powell et al, thereby making the specified time window as narrow and accurate as possible, thus providing greater customer service (see Powell et al, ¶ 0034).

As per claims 3, 10, and 22, Lesaint et al disclose each window hierarchy comprises all day appointment windows (i.e., tasks with a commitment time of 5pm, column 17, lines 30-32), aggregate appointment windows (i.e., task with appointment to be made in the period from 10:30am to 1pm, column 17, lines 16-17), and basic appointment windows (i.e., specified timeslot, column 21, lines 36-37).

As per claim 4, Lesaint et al disclose determining whether a booking pattern (i.e., technician tour) is associated with the order (i.e., scheduling of tasks within the technician tour, column 10, lines 26-29) and determining appointment windows as a function of any associated booking patterns (i.e., pre-scheduler 30 positions next available time in each technician's tour, column 10, lines 33-37).

As per claim 5, Lesaint et al disclose each booking pattern specifies particular days and times on such days during which service may be performed (i.e., technician tour, defining times tasks may be scheduled, column 10, lines 26-30).

As per claim 6, Lesaint et al disclose a method for scheduling splittable work

orders to provide customers with requested service (scheduling of a split task,

column 14, lines 30-34), the method comprising: identifying a received request for

service from a customer as being a splittable work order having a job duration

required to complete the splittable work order and a split time that is less than the

job duration (i.e., if task could overrun an overtime limit, then task is only scheduled

if it can be split, column 14, lines 30-34), requesting an appointment in a specific

appointment window on a first day in response to the received customer request, the

appointment window being for the split time (i.e., first part of the task is scheduled to

be completed at the scheduled end of day, column 14, lines 34-36); validating the

requested appointment against a number of scheduling constraints and against

projected service resources for that window on the first day (i.e., limits are input into

the pre-scheduler 30, including scheduled overtime, planned flextime, and other

permitted variations, column 14, lines 24-28); scheduling the appointment in the

specific appointment window on the first day when the validation indicates the

appointment can be scheduled given the scheduling constraints and projected

service resources (i.e., splittable task scheduled, with the proportion of the task that

can be completed before the end of overtime, column 14, lines 30-34); scheduling

the appointment in the specific appointment window on the subsequent day or days

when the validation indicates the appointment can be scheduled given the

scheduling constraints and projected service resources (i.e., pre-scheduler 30

schedules the split work order, column 14, lines 49-50). Lesaint et al does not

explicitly disclose receiving customer requests from customers desiring service;

requesting an appointment in a specific appointment window on a subsequent day or

days during which the remainder of the splittable work order may be scheduled;

validating the requested appointment against the number of scheduling constraints

and against projected service resources for that window on the subsequent day or

days; and advising the customer of the scheduled appointment.

Powell et al disclose receiving customer requests from customers desiring

service (i.e., customer contacts the service provider, ¶ 0034); requesting an

appointment in a specific appointment window on a subsequent day or days during

which the remainder of the work order may be scheduled (i.e., customer may

request a specific time, ¶ 0034); validating the requested appointment against the

number of scheduling constraints and against projected service resources for that

window on the subsequent day or days (i.e., scheduling constraints including

required skills and geographic boundaries, ¶ 0036); and advising the customer of the

scheduled appointment (i.e., service provider allocates time windows, ¶ 0035). Both

Lesaint et al and Powell et al are concerned with effective technician scheduling,

therefore it would have been obvious to one having ordinary skill in the art at the

time the invention was made to include receiving customer requests; requesting an

appointment in a specific appointment window on a subsequent day; validating the

requested appointment against the number of scheduling constraints and against

projected service resources for that window on the subsequent day or days; and

advising the customer in Lesaint et al, as seen in Powell et al, thereby making the

specified time window as narrow and accurate as possible, thus providing greater customer service (see Powell et al, ¶ 0034).

As per claim 7, Lesaint et al disclose booking patterns identifying allowable appointment windows during which appointments are permitted to be scheduled (i.e., scheduling of tasks within the technician tour that satisfy constraints from a given rule store 35, column 10, lines 26-29).

As per claim 8, Lesaint et al disclose projected resources of field service representatives on the requested day and during the requested window (i.e., pre-scheduler 30 attempts to schedule tasks to the technicians, column 13, lines 44-45).

As per claim 11, Lesaint et al does not disclose receiving telephone calls by customer service representatives of the company providing the service. Powell et al disclose receiving telephone calls by customer service representatives of the company providing the service (i.e., customers contact the service provider via a call center, ¶ 0034). Both Lesaint et al and Powell et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include receiving telephone calls by customer service representatives in Lesaint et al, as seen in Powell et al, thereby best understanding the customer's request for service (see Powell et al, ¶ 0034).

As per claims 12 and 23, Lesaint et al does not disclose advising the customer over the telephone as part of the same telephone call initially received by the customer service representative. Powell et al disclose advising the customer over the telephone as part of the same telephone call initially received by the customer

service representative (i.e., the customer requests either a specific time or request

that the service provider inform the customer of the time window, ¶ 0034). Both

Lesaint et al and Powell et al are concerned with effective technician scheduling,

therefore it would have been obvious to one having ordinary skill in the art at the

time the invention was made to include receiving telephone calls by customer

service representatives in Lesaint et al, as seen in Powell et al, thereby best

understanding the customer's request for service (see Powell et al, ¶ 0034).

As per claim 13, Lesaint et al disclose a method for scheduling splittable work

orders to provide customers with requested service (scheduling of a split task,

column 14, lines 30-34), the method comprising: identifying a received request for

service from a customer as being a splittable work order having a job duration

required to complete the splittable work order and a split time that is less than the

job duration (i.e., if task could overrun an overtime limit, then task is only scheduled

if it can be split, column 14, lines 30-34), requesting an appointment in a specific

appointment window on a first day in response to the received customer request, the

appointment window being for the split time (i.e., first part of the task is scheduled to

be completed at the scheduled end of day, column 14, lines 34-36); validating the

requested appointment against a number of scheduling constraints and against

projected service resources for that window on the first day (i.e., limits are input into

the pre-scheduler 30, including scheduled overtime, planned flextime, and other

permitted variations, column 14, lines 24-28); scheduling the appointment in the

specific appointment window on the first day when the validation indicates the

appointment can be scheduled given the scheduling constraints and projected

service resources (i.e., splittable task scheduled, with the proportion of the task that

can be completed before the end of overtime, column 14, lines 30-34); scheduling

the appointment in the specific appointment window on the subsequent day or days

when the validation indicates the appointment can be scheduled given the

scheduling constraints and projected service resources (i.e., pre-scheduler 30

schedules the split work order, column 14, lines 49-50).

Lesaint et al does not disclose receiving customer requests from customers

desiring service, the requests being received by customer service representatives;

requesting an appointment in a specific appointment window on a subsequent day or

days during which the remainder of the work order may be scheduled; validating the

requested appointment against the number of scheduling constraints and against

projected service resources for that window on the subsequent day or days; and

advising the customer of the scheduled appointment by the CSR and if either

validation fails, providing the customer service representative with a set of alternate

appointment windows over multiple days in which the work order may be scheduled;

and advising the customer of the alternative appointment windows.

Powell et al disclose receiving customer requests from customers desiring

service (i.e., customer contacts the service provider, ¶ 0034); requesting an

appointment in a specific appointment window on a subsequent day or days during

which the remainder of the work order may be scheduled (i.e., customer may

request a specific time, ¶ 0034); validating the requested appointment against the

number of scheduling constraints and against projected service resources for that

window on the subsequent day or days (i.e., scheduling constraints including

required skills and geographic boundaries, ¶ 0036); and advising the customer of the

scheduled appointment (i.e., service provider allocates time windows, ¶ 0035).

Powell et al also discloses if either validation fails, providing the customer service

representative with a set of alternate appointment windows over multiple days in

which the work order may be scheduled (i.e., the service provider provides the

customer a set of days and time windows in which the service provider can optimally

fulfill the order, ¶ 0045); and advising the customer of the alternative appointment

windows (i.e., customer selects from time windows available, ¶ 0045). Both Lesaint

et al and Powell et al are concerned with effective technician scheduling, therefore it

would have been obvious to one having ordinary skill in the art at the time the

invention was made to include receiving customer requests; requesting an

appointment in a specific appointment window on a subsequent day; validating the

requested appointment against the number of scheduling constraints and against

projected service resources for that window on the subsequent day or days; and

advising the customer in Lesaint et al, as seen in Powell et al, thereby making the

specified time window as narrow and accurate as possible, thus providing greater

customer service (see Powell et al, ¶ 0034).

   As per claim 18, Lesaint et al does not disclose the customer service

representative requests a list of all available appointment windows into which the

splittable work order may be scheduled when either validation failed, and the

representative schedules the order into one of the available windows. Powell et al disclose the customer service representative requests a list of all available appointment windows into which the splittable work order may be scheduled (i.e., the service provider provides the customer a set of days and time windows in which the service provider can optimally fulfill the order, ¶ 0045) when either validation failed, and the representative schedules the order into one of the available windows (i.e., customer selects from time windows available, ¶ 0045). Both Lesaint et al and Powell et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the customer service representative requesting a list of all available appointment windows, and the representative schedules the order in Lesaint et al, as seen in Powell et al, thereby making the specified time window as narrow and accurate as possible, thus providing greater customer service (see Powell et al, ¶ 0034).

As per claim 19, Lesaint et al disclose the booking constraints comprise booking patterns identifying allowable appointment windows during which appointments are permitted to be scheduled (i.e., scheduling of tasks within the technician tour that satisfy constraints from a given rule store 35, column 10, lines 26-29).

As per claim 20, Lesaint et al disclose projected resources of field service representatives on the requested day and during the requested window (i.e., pre-scheduler 30 attempts to schedule tasks to the technicians, column 13, lines 44-45).

Claims 24-35 and 41-46 are rejected based upon the rejection of claims 1-12 and 18-23, since they are the computer-readable medium claims, corresponding to the method claims.

Claim 47 is rejected based upon the rejection of claim 1, since it is the system claim corresponding to the method claim.

As per claim 48, Lesaint et al disclose requests initiated from the client computers and information about the scheduled work order are formulated into message packets adapted to be communicated over a communications network (i.e., system provides communication link C between computer X and handheld terminals H, column 7, lines 48-50).

As per claim 49, Lesaint et al disclose a system tables component containing booking constraints against which the requested orders are scheduled (i.e., rules 35, figure 3).

As per claim 50, Lesaint et al disclose the scheduling component includes a remote access component that provides a manager remote access to the scheduling component (i.e., technician contacts computer X with handheld terminal H via communication link C for scheduling instructions, column 7, lines 48-50).

7. Claims 14-17 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lesaint et al (USPN 6,578,005), in view of Powell et al (US 2001/0049619), as applied to claim 13, in further view of Babayev et al (USPN 5,615,121).

As per claim 14, neither Lesaint et al nor Powell et al disclose informing the customer service representative of the reason either validation failed. Babayev et al disclose informing the customer service representative of the reason either validation failed (i.e., the customer preferred time interval cannot be accommodated due to previous customer request, column 4, lines 45-50). Lesaint et al, Powell et al, and Babayev et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include informing the CSR the reason the validation failed in Lesaint et al, as seen in Powell et al, thereby providing the customer with a explanation as to why the preferred time window is not available, thus improving customer service.

As per claim 15, neither Lesaint et al nor Powell et al disclose providing the customer service representative with an indication that the reason for the failure was the result of insufficient projected service resources. Babayev et al disclose providing the customer service representative with an indication that the reason for the failure was the result of insufficient projected service resources (i.e., the customer preferred time interval cannot be accommodated due to previous customer request, column 4, lines 45-50). Lesaint et al, Powell et al, and Babayev et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include informing the CSR the reason the validation failed in Lesaint et al, as seen in Powell

et al, thereby providing the customer with a explanation as to why the preferred time window is not available, thus improving customer service.

As per claim 16, neither Lesaint et al nor Powell et al disclose providing the representative with the degree to which the requested appointment windows are overbooked. Babayev et al disclose providing the representative with the degree to which the requested appointment windows are overbooked (i.e., the customer preferred time interval cannot be accommodated because it is booked, due to previous customer request, column 4, lines 45-50). Lesaint et al, Powell et al, and Babayev et al are concerned with effective technician scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the degree the requested appointment windows are overbooked in Lesaint et al, as seen in Powell et al, thereby providing the customer with a explanation as to why the preferred time window is not available, thus improving customer service.

As per claim 17, neither Lesaint et al nor Babayev et al disclose the customer service representative schedules the requested appointment in the alternative appointment windows or schedules the appointment in the originally requested windows using an override procedure. Powell et al disclose the customer service representative schedules the requested appointment in the alternative appointment windows (i.e., the service provider provides the customer a set of days and time windows in which the service provider can optimally fulfill the order, ¶ 0045). Lesaint et al, Powell et al, and Babayev et al are concerned with effective technician

scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the CSR scheduling the requested appointment in the alternative window in Lesaint et al, as seen in Powell et al, thereby making the specified time window as narrow and accurate as possible, thus providing greater customer service (see Powell et al, ¶ 0034).

Claims 37-40 are rejected based upon the rejection of claims 14-17, since they are the computer-readable medium claims, corresponding to the method claims.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Kocur (USPN 5913201) disclose assigning workers to a plurality of work-projects.

-Edgar et al (USPN 5848395) disclose an appointment booking and scheduling system.

-Kardos et al (USPN 6430562) disclose communicating between a plurality of disparate hosts.

-Powell et al (US 2002/0065700) disclose processing multiple work assignments to a mobile workforce.

-MDSI Mobile Data Solutions (December 1998) disclose solutions for mobile workforce management.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andre Boyce whose telephone number is (571) 272-

6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-

9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

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adb
June 10, 2005

SUSANNA M. DIAZ
PRIMARY EXAMINER

AU 3623